IT IN THE HOME: A FRAMEWORK FOR ANALYSIS

Household technologies are adopted and used for reasons—their presence in the home is, in and of itself, not significant.[9] Rather, what matters is the use to which a technology is put and the consequences it has for individual family members; the family as a whole; and the home as a physical, emotional, and psychological space.

Several studies provide useful conceptual frameworks. Some focus on the role of information and information processing (Childers 1975); others on the overall adoption-use-impact process (Dutton, Rogers, and Jun 1987; and Venkatesh 1996); still others on the impact of IT on the family itself (Habib and Cornford 1996); and finally others on the quality of life impacts of home-based IT (Hesse et al. 1991). Taken together, these conceptual and theoretical models point to a few basic stylized elements regarding IT in the home:

- IT in the home performs three basic functions for family members: (1) interpersonal communication, (2) information acquisition and processing, and (3) entertainment.

- The adoption process for IT is distinctly different from the dynamics of IT use, and both sets of behaviors are strongly affected by socioeconomic, demographic, technological, and psychological factors.

- The household as a level of analysis is extremely complex. Impacts can reflect a variety of changes to individuals and the family in terms of both behavioral and emotional responses. Since the home itself also possesses tangible and affective attributes,[10] it represents a unique unit of analysis. Quality of life is another way of conceptualizing the impact of IT in the home.

Figure 1 is a graphical representation of an overall framework for making sense of the adoption, use, and impacts of home IT. The items organized in the figure are not meant to be exhaustive, but rather illustrative of the main ways in which scholars and analysts organize their thinking and research on home IT. If we envision each stage of activity as a dependent variable, it becomes obvious that the complexity of these phenomena increases as we move through successive social stages of innovative activity and responses. For example, home IT adoption is a relatively simple dichotomous behavior: a yes/no adoption choice allowing for early and late adopting behavior. Type of use is far more complex; as a dependent variable, it can be characterized by function, content, type of application, or time and scope of user activities.

Impacts are even more broadly understood, encompassing multiple levels of analysis (individual, family, home); a wide variety of quality of life indicators (physical safety and health; consumer benefits; leisure time and entertainment; educational attainment); and an array of psychological, behavioral, and sociological responses to the presence and use of IT in the home.

The driving concern in social impacts research is on the last stage of activity, particularly whether the consequences of a technological innovation are positive or harmful. In some instances, new technologies can be relatively benign (such as home appliances), notably beneficial (such as new medicines), or quite costly (such as nuclear power). Steinfeld, Dutton, and Kovaric (1989) highlight the fact that there is an unusual duality to the home impacts of IT. On the one hand, these technologies promise to enrich social networks, learning, education, information processing, and so on; on the other, they threaten to create (for example) more stress, overwork, and psychological and social isolation. There is no reason to expect that the consequences of home IT will necessarily be beneficial or damaging; it is far more likely that the consequences will be of both varieties, and the problem is that there is not enough research on either.

The following sections of this report discuss the research and findings on IT in the home as they parallel the three main stages of household innovation presented in figure 1: adoption, usage patterns, and impacts of use. Intervening variables are also discussed. For adoption and usage behaviors in particular, a fair amount of attention is given to socioeconomic and demographic influences. Research on impacts is quite sparse, and gives no real impression of the overall consequences of IT for the homes that use them.

[9]Not significant from a functional standpoint, that is; a technology can have an important symbolic presence in the home.

[10]A thoughtful discussion of the concept of "home" can be found in Nowotny (1981), particularly chapter 2. Nowotny notes that, in addition to its physical and aesthetic characteristics, the home is a space for intimacy, privacy, reproduction, and family relations and has historically served as a sanctuary from the outside world.

Figure 1. Framework for analyzing the adoption, use, and impacts of IT in the home